

JUN - 1 1998

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

---

---

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

---

In the Matter of )

Federal-State Joint Board on )  
Universal Service )

CC Docket No. 96-45

Forward-Looking Mechanism )  
for High Cost Support for )  
Non-Rural LECs )

CC Docket No. 97-160

---

---

**COMMENTS OF SOUTHWESTERN BELL TELEPHONE COMPANY,  
PACIFIC BELL, AND NEVADA BELL**

---

---

**ROBERT M. LYNCH  
DURWARD D. DUPRE  
DARRYL W. HOWARD**

**Their Attorneys**

**One Bell Plaza, Room 3703  
Dallas, Texas 75202  
(214) 464-4244**

**June 1, 1998**

---

---

## Table of Contents

I.	OVERVIEW .....	2
II.	CUSTOMER LOCATION DATA .....	3
III.	MAXIMUM COPPER LOOP LENGTH .....	6
IV.	DEFINING "HOUSEHOLDS" .....	6
V.	DEPRECIATION .....	7
	A.    The SBC LECs Recommends the Use of Forward-Looking Economic Depreciation Lives and Future Net Salvage Percentages to Determine the Forward-looking Cost of Providing Supported Services in a Competitive Environment .....	10
	B.    The SBC LECs Develop Economic Lives and FNS Parameters Internally .....	11
	C.    Economic Lives and FNS Parameters Place Less Emphasis on Asset Retirement .....	12
	D.    Lower Asset Prices Change Adoption Rate, Influences Decisions to Introduce New Technology, and Therefore Shortens In-place Asset Lives .....	16
	E.    The Straight-line Remaining Life - Equal Life Group (SLELG) Methodology Is More Appropriate for Developing Economic Depreciation for Economic Models .....	17
VI.	COSTS OF INSTALLING OUTSIDE PLANT .....	18
VII.	THE COMMISSION SHOULD ADOPT AN AFFORDABILITY-BASED REVENUE BENCHMARK .....	22

A.	Initialize the new federal universal service funding mechanism	
	Timeframe: Immediate .....	24
B.	Implement a transitional revenue benchmark	
	Timeframe: January 1999 .....	25
C.	Implement affordability-based revenue benchmarks	
	Timeframe: July 2000 .....	26

## SUMMARY\*

With these Comments, the SBC LECs provide input in response to the Public Notice. The SBC LECs believe the HAI inputs are driven by a desire to obtain a certain result. Nowhere is this more clearly shown than with the assumptions regarding infrastructure sharing for distribution and feeder plant, and future expense reductions.

As explained in the Schrottenboer letter and expanded upon in these Comments, there are legitimate and significant concerns about the accuracy of geocoded data, especially as then used in the BCPM and particularly the HAI, which grinds the data through multiple processes such that the data is effectively disregarded. Plotting customer locations using GPS devices would in all likelihood be more accurate, but expensive to obtain.

The maximum length of a cooper loop for CSA/DLC should be 12,000 feet. Beyond that, the cost of line cards increases by about 400%.

On the issue of a "household" definition, costs should be calculated on total housing units regardless of whether or not currently occupied. Anything less ignores the carrier's need to have sufficient facilities in place to provide prompt service to customers. Actual wire center data should be preferred if available and if the incumbent LEC will voluntarily provide the data to the universal service administrator (assuming confidentiality concerns are respected). Otherwise, a default could be used.

On the issue of depreciation, the SBC LECs believe that the FCC's prescribed depreciation rates are neither economical nor forward-looking. In fact, the history of those rates

---

\* The abbreviations used in this Summary are as defined in the main text.

and the FCC's depreciation orders conclusively demonstrate otherwise. The SBC LECs instead propose that the FCC adopt the economic lives and FS parameters developed by SWBT and submitted to the FCC as part of SWBT's 1998 Depreciation Rate Study. As explained, those depreciation rates more closely reflect the financial, use, and competitive realities associated with telecommunications infrastructure, and eliminate some of the infirmities experienced with the prescribed rates. In no event should depreciation rates be reduced or useful lives extended for purposes of the cost proxy model.

The SBC LECs strongly believe that, if defaults are to be selected, the BCPM default inputs for installing outside plant should be adopted over the HAI defaults. As explained, the BCPM defaults create results that are significantly more representative of the actual costs of such installation.

The FCC should begin the process of adopting an affordability-based revenue benchmark, and suggests a multi-step process with the involvement of a Joint Board that would maintain the dual jurisdictional responsibility that the FCC and States share for universal service, and that ultimately would seek to provide support where needed to keep universal service affordable. Until that process is completed and implemented, a revenue benchmark should be used that only includes the revenues from local service and the EUCL.

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of	)	
	)	
Federal-State Joint Board on	)	CC Docket No. 96-45
Universal Service	)	
	)	CC Docket No. 97-160
Forward-Looking Mechanism	)	
for High Cost Support for	)	
Non-Rural LECs	)	

**COMMENTS OF SOUTHWESTERN BELL TELEPHONE COMPANY,  
PACIFIC BELL, AND NEVADA BELL**

Southwestern Bell Telephone Company, Pacific Bell, and Nevada Bell (collectively, the "SBC LECs") submit these Comments in response to the Commission's Public Notice on selected issues regarding the forward-looking cost proxy model that is planned to be adopted to determine universal service support.<sup>1</sup> Specifically, the Public Notice seeks comment on a number of input issues related to the proxy model including customer location data, maximum copper loop length, definition of households, depreciation, and cost of installing outside plant, as well as comment on the proposed nationwide benchmark.<sup>2</sup>

---

<sup>1</sup> *Common Carrier Bureau Requests Further Comment on Selected Issues Regarding the Forward-Looking Economic Cost Mechanism for Universal Service Support*, CC Docket Nos. 96-45, 97-160, Public Notice, DA 98-848 (released May 4, 1998) ("Public Notice").

<sup>2</sup> By filing these Comments, none of the SBC LECs or any affiliate waives, prejudices, or otherwise adversely affects any appeal or other recourse from any Commission or State proceeding or action, including the *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, 12

## I. OVERVIEW

The notion of developing a valid set of proxy model inputs is somewhat a subjective exercise. In reality, costs vary dramatically, depending on factors such as size, geography and topography, vendor contracts, relationships with other public utility providers, and willingness to accept risk. To come up with a single set of inputs which are intended to represent costs to be incurred by an efficient competitor in the future implicitly assumes that cost differences related to cost-driving factors that vary from carrier-to-carrier will cease to exist in the future.

The model maker is thus forced to make a set of assumptions in developing inputs. In such a subjective process, the maker may be driven by the desire to obtain a certain result rather than formulate a reasonable model that accurately predicts or projects the stated objective. Such an outcome has occurred with the HAI inputs. Nowhere is this better exemplified than with the HAI default assumption about the placement costs of distribution and feeder facilities -- namely, that the costs of such placement will be *always* shared, and the carrier will *never* place such facilities by itself. This assumption simply cannot be supported by current practice or experience, or by the fundamental basis on which a forward-looking cost proxy purportedly rests (an implicit assumption of the default input is that those with whom sharing could occur -- gas and electric utilities, cable companies -- will also replace their *entire* outside plant using a "scorched node" structure and will want to place facilities in the exact same place as the eligible carrier), or by common sense (the build-out and deployment plans and schedules of the carrier

---

FCC Rcd 8776 (1997) ("Universal Service Order").

and the others are *always* synchronized and simultaneous). Indeed, the HAI sponsors have not offered any real evidence that they share (or intend to share) 100% of such placement costs now, in the past, or in the future.

Another convenient but unsupported assumption HAI sponsors embed in their cost estimates is that the eligible carrier can cut network operations expenses by half in the future. The simple fact is that even for an industry or firm which is able to consistently improve productivity at quadruple the long term average growth in productivity for the U.S. economy would require more than 15 years to cut expenses by 50%. The time frame for a 50% decline in expenses is considerably longer for firms and industries faced with the prospect of modest inflation and rapid intensification in competition.

With all this, the use of actual cost data and adjusted for known and measurable changes is the only supportable, reasonable approach. At the very minimum, actual cost data must be used by the Commission to determine the accuracy of the inputs and outputs of any cost proxy model.

## **II. CUSTOMER LOCATION DATA**

The SBC LECs have already detailed their concerns with geocoding processes as they relate to universal service.<sup>3</sup> The SBC LECs incorporate by reference that response. In addition, the SBC LECs offer the following comments.

---

<sup>3</sup> See April 27, 1998, letter from John Schrottenboer, on behalf of the SBC LECs, to A. Richard Metzger, Jr., FCC, CC Docket No. 97-160 ("Schrottenboer letter").

The SBC LECs have no alternative source for the geocoded data sought by the Commission that does not have the same drawbacks already inherent in the PNR/HAI data. Company-specific data is superior to that used by PNR/HAI, but it also is not that accurate because both data sources share some common infirmities -- neither has 100% geocoded data for all customers; both suffer from non-uniform addresses; and neither can match all addresses to latitude and longitude due to limitations of mapping software. It should be noted, however, that the SBC LEC data only contains the records of working numbers, not the records of all locations where facilities are present (the inclusion of which is more consistent with a notion of universal service that presupposes a network that is available and does not have to be built every time a new customer wants service).

As indicated in the Schrottenboer letter, SBC LEC geocoded data is generally less complete for smaller wire centers, which are generally more rural in location and are the places where universal service support is most critical. Any technique for estimating customer locations -- such as those used by HAI/PNR or BCPM -- make the cost calculation less reliable. Additionally, SBC LEC data -- like the PNR/HAI data -- would be considered proprietary in nature and not be available for, or subject to, public release.

The FCC should not readily accept that the notion that geocoded data will remedy the deficiencies inherent in the proposed cost proxy models. While geocoding may in theory provide the best indicator of customer location, its reliability diminishes as the rural nature of the customer locations increases. In other words, the data is most inaccurate where accuracy is most

needed.

Moreover, the treatment and use of geocoded data by any particular model should be extensively examined. The BCPM and HAI models take already questionable geocoded data and then "reinterpret" it by redistributing the data to grids or clusters. BCPM's data is geocoded to a Census block level, while the HAI data uses both real and surrogate points to represent customer locations. At least the BCPM stops there. HAI continues grinding the data, first reconfiguring its already derivative clusters to a minimum bounding rectangle ("MBR"). The MBR is then further reconfigured to an equivalent area rectangle with the same area as the cluster, which requires modifications to the height and/or width of the cluster until the rectangle has the same area as the cluster, and the same "aspect ratio" (a relative measure of length to width) as the MBR. HAI then establishes lots based on the number of points included in the cluster/MBR/equivalent area rectangle. Thus, any geocoded points are so processed that any actual data is disregarded by HAI before the theoretical network design is even started. BCPM's approach is different in that it assumes that all housing units are evenly distributed along roads within a grid.

WorldCom's suggestion that global positioning satellite ("GPS") devices provide more accurate data than HAI's process probably cannot help but be true, but it would be extremely expensive to find out. The current methods of address matching to geographic coordinates is probably sufficient in urban areas where street addressing has been standardized. As detailed in the Schrotenboer letter, the SBC LECs' experience with geocoding produced a success rate of

between 76% and 86% for its operations in Arkansas, Kansas, Missouri, Oklahoma and Texas.<sup>4</sup>

In its *ex parte* of February 3, 1998, MCI only claims an average success rate of 71% for all States.

But it is rural areas where the most significant problems exist. Rural addresses are typically not standardized, and the travel time and other expenses to gather GPS data for each rural location would be substantial.

### **III. MAXIMUM COPPER LOOP LENGTH**

The SBC LECs believe that 12,000 feet should be used as the maximum copper loop length for CSA/DLC. Extending the loop lengths from 12,000 feet to 18,000 feet requires a very expensive line card which costs approximately 400% more than line cards for shorter lengths.

### **IV. DEFINING "HOUSEHOLDS"**

Costs should be calculated based on the total housing units regardless of whether occupied or not. The facilities needed to provide universal service (*e.g.*, copper/fiber, drop, electronics, switching capability) must generally be readily available in order to provide service with a minimum of delay. This is closer to the definition of universal service than either 'total households' or 'households with telephones,' as these terms are defined in the Public Notice.

---

<sup>4</sup> *Ex parte* of MCI, CC Docket Nos. 96-45 and 97-160, February 3, 1998. Even if 100% accurate geocode information was available from some source it would still have to be run through the proprietary clustering algorithm and model by PNR for the HAI model. The model work done by PNR is not public nor has it been generally released.

Indeed, using 'households with telephones' would imply that the current level of penetration is all that is expected of "universal service." Commission statements are to the contrary.

Regarding alternative sources of data, the SBC LECs maintain records that provide counts of lines in service by wire center. Rather than require carriers to provide this data, it would be more reasonable to allow the companies to provide this data to the universal service administrator. If the companies do not wish to provide this data, then the default information would be used. This can be done as was evidenced by Nevada Bell's experience in Nevada, where Nevada Bell provided information by wire center and others did not. The same alternative should be allowed for the provision of wire center boundaries and the more disaggregated line information (residential, multi-line and single-line business by wire center).

There may be confidentiality concerns for both the line information and the wire center boundary information, but as long as this information is provided to the universal service administrator and not released publicly, the confidentiality concerns should be minimized.

## **V. DEPRECIATION**

The SBC LECs continue to believe that calling the current FCC depreciation prescriptions as based upon economic lives and representing forward-looking rates is grossly inaccurate and certainly not supported by the FCC's earlier depreciation pronouncements. As a matter of fact, the Commission has essentially admitted that the prescribed lives and future net salvage ("FNS") values prescribed for incumbent LECs are not economic.

The prescribed projection lives are chosen from a range of projection lives which were established at the time of the FCC simplification of its depreciation represcription practices. Although the projection life ranges were born out of the depreciation simplification process, the FCC's objective was not to develop economic depreciation rates or to develop forward-looking capital recovery costs. In its First Report and Order issued in the depreciation simplification proceedings, the Commission summarized its primary goals:

In the Notice, we listed a number of factors that led us to open this docket. We recognized that regulatory, technological, and market changes may have dated the current depreciation prescription process. We hoped to achieve three goals in this proceeding: simplification of the process, administrative savings, and flexibility, while continuing to ensure just and reasonable tariffed rates to consumers.<sup>5</sup>

Developing economic depreciation rates or forward-looking costs were not among its objectives.<sup>6</sup> Since it was not the objective of the FCC to change its depreciation rates, it could not have been its objective to develop economic depreciation rates or the underlying parameters (economic lives and FNS percentages) for developing such a rate.

In addition, the FCC acknowledged it did not address these factors at the time of the

---

<sup>5</sup> *Simplification of the Depreciation Prescription Process*, CC Docket No. 92-296, Report and Order, released October 20, 1993, ¶ 3.

<sup>6</sup> In fact, the FCC did not even have in mind as an objective to change depreciation rates. In its Second Report and Order, the FCC stated "Our objective was not to change the depreciation rates, but to streamline the process used by the Commission to prescribe those rates." *Simplification of the Depreciation Prescription Process*, CC Docket No. 92-296, Second Report and Order, released June 28, 1994, ¶ 24.

depreciation simplification process.<sup>7</sup> Also, the FCC made it clear that when establishing its streamlined represcription practice that it did not address the issue of using forward-looking data in establishing the projection life ranges,<sup>8</sup> even when specifically asked to do so by Southwestern Bell Telephone and other LECs.<sup>9</sup> Consequently, the depreciation rates produced from the depreciation simplification process do not yield economic depreciation rates or underlying economic lives and FNS percentages. This conclusion has been echoed by other regulators.<sup>10</sup>

---

<sup>7</sup> *Simplification of the Depreciation Prescription Process*, CC Docket No. 92-296, Second Report and Order, released October 20, 1993, ¶ 56:

We recognize that the increase in competition and the rapid changes in technology and services may lead LECs to request an acceleration of their depreciation to reflect an increase in their replacement of plant to ensure improved network functionality and service quality. We must ensure that the regulatory process will respond quickly to these dynamic market and technological changes. The goal of our depreciation prescription process is to accurately reflect the actual rate of plant retirement. We would not want any lag in that process to inhibit carriers from moving forward with their infrastructure developments plans. We therefore intend to institute a further proceeding as expeditiously as possible to explore ways in which our depreciation process and policies can become more responsive to actual changes in patterns of LEC investment and plant retirement.

<sup>8</sup> *Simplification of the Depreciation Prescription Process*, CC Docket No. 92-296, Third Report and Order, released May 4, 1995, n.31 ("In discussing the ranges, many of the commenters recommend that we consider other methodologies, criteria and data in establishing the ranges. For example, the LECs state that we should consider forward-looking data rather than historical data . . . these issues are beyond the scope of this FOIC,").

<sup>9</sup> See, e.g., "Reply Comments of Southwestern Bell Telephone Company" dated January 21, 1994, pp. 6-8, in *Simplification of the Depreciation Prescription Process*, CC Docket No. 92-296.

<sup>10</sup> The NARUC Committee on Depreciation concluded that "[a] cost depreciation base conforms to the accepted accounting principles that operating expenses should be based on cost and not be influenced by fair value estimates nor by what costs may be at some future date." See *Public Utility Depreciation Practices*, National Association of Regulatory Utility Commissions, August

Since the FCC did not use forward-looking data in establishing projection life ranges but instead was focused on a traditional regulatory approach to keep rates artificially low to generate implicit support,<sup>11</sup> those lives cannot be used in a forward-looking cost analysis.

**A. The SBC LECs Recommends the Use of Forward-Looking Economic Depreciation Lives and Future Net Salvage Percentages to Determine the Forward-looking Cost of Providing Supported Services in a Competitive Environment**

The SBC LECs recommend the use of the economic depreciation parameters illustrated in Schedule 1. This schedule shows the range of economic projection lives ("PLs") and FNS percentages proposed by Southwestern Bell Telephone ("SWBT") in its 1998 Depreciation Rate Study filed for its assets with the FCC. These parameters are economic and forward-looking.

---

1996, p. 22 ("Depreciation Practices"). The committee later revisited the matter and again concluded:

This Committee's re-examination of the question as to what is the proper depreciation base, leads firmly to the conclusion that the claims advanced in support of economic depreciation are lacking in probative force. The Committee is convinced that the long-established cost basis is sound, practical and equitable and should be continued.

*Id.* NARUC stated that as a result of the report of its Committee on Depreciation, "economic depreciation is not used in a regulatory environment." *Id.*

<sup>11</sup> *Simplification of the Depreciation Prescription Process*, CC Docket No. 92-296, Report and Order, released October 20, 1993, ¶ 5 ("We therefore adopt a basic factor range approach for price cap LECs in the depreciation prescription process. In reaching our conclusion, we viewed depreciation reform on a regulatory spectrum. As circumstances for the LECs change, we will visit this issue to consider whether LECs should be farther along that spectrum.") The FCC has yet to revisit this issue.

**B. The SBC LECs Develop Economic Lives and FNS Parameters Internally**

The SBC LECs determine economic lives using their experience with and analyses of the major network technologies, industry studies of technology substitution affecting these same technologies, and input from their network organization. These inputs are of significant value in determining economic lives. First-hand experience with improvements in technology (with respect to the capabilities and cost of technology), the migration of customers from older technologies to newer technologies (with respect to customers' demands for more reliable and advanced services), the ultimate replacement of older technologies by newer technologies (such as electromechanical switching by electronic switching), and even the replacement of current technologies by more cost-effective and capable versions of the same technologies (such as the processors used in digital switches) is obviously relevant in analyzing future usefulness of assets, and, therefore, in determining the economic lives of these assets. Forecasts of future declines in economic value (*i.e.*, the usefulness and/or revenue-generating capability) for the major technologies are based on this experience and analysis, as well as knowledgeable opinions about future trends in the telecommunications industry. In addition, these forecasts are corroborated with industry studies of these same technologies.

Through these processes, the SBC LECs believe they develop the economic lives recognized by depreciation experts; the amount of time over which the asset has economic value, with respect to its usefulness for providing or supporting the services demanded by customers; and the ability to generate future cash sufficient to recover the asset. The particular approach

used by SWBT in developing the economic lives proposed in Schedule 1 are detailed in its 1998 Depreciation Rates Study filed with the FCC on December 23, 1997.<sup>12</sup>

**C. Economic Lives and FNS Parameters Place Less Emphasis on Asset Retirement**

Lives prescribed for incumbent LECs are based heavily on asset retirements, and have considerable reliance on the past retirements (*i.e.*, historical actuarial data), and very near-term projections of future retirements. Even though there has been a general acknowledgment that purely historical data alone are not a valid indicator of asset lives, the continued reliance on retirements (whether past or future) as an indicator of life has resulted in prescribed lives that are still too long as compared to their economic lives. This is simply because retirements, whether past or future, are generally a very poor indicator of the decline in economic value of assets. The reason is that in the major, technology-driven categories of assets (such as central office switches and outside plant cables), lives determined by actuarial analyses of past retirements, as well as very near-term projections of future retirements, are very long until the last several years of use of these technologies. Then, during those last several years of the technology's use, retirements (both past and projected) finally begin to signal the actual end of the technology's life span, with most retirements concentrated in the last part of the technology's life span. Over time, the result is a long life prediction for many years, and a much shorter life prediction for the last few years. Therefore, the use of retirement data to estimate lives produces totally incorrect life predictions

---

<sup>12</sup> That filing was extremely voluminous so instead of attaching, it is incorporated herein by this reference.

for most of the life of the technology.

Conversely, the actual economic value of assets declines gradually, long before the last several years of use (*i.e.*, long before most of the retirements occur). Analyses which recognize the gradual loss of value over time properly predict the economic lives of the assets throughout all years of use. Accordingly, SWBT migrated to such an analysis in its 1998 depreciation rate study. Instead of reporting traditional retirement data, SWBT employed an approach that transforms traditional retirements to reflect the gradual loss of value over time.

This approach relies utilization factors to model retirement activity. For example, assume that an asset is only 80% used. Under the traditional retirement approach, if 10% of the original asset is retired, the remaining 90% remains on the books until it is fully recovered or 100% retired. However, if the gradual loss approach is considered, retirements are adjusted to reflect the actual 10% plus an additional 18% [ $90\% - (.80 \times 90\%)$ ] in recognition of the loss in utilization, for a total of 28%. The remaining balance (72%) under this approach more accurately predicts the economic life of the asset.

The FCC's traditional retirement approach fails to recognize this important concept in determining economic life. The graph illustrated in Schedule 2 shows the distinction between the pattern of retirements and the pattern of loss of economic value. This gradual decline in economic value will occur uniformly over the entire useful life of an asset.

However, the annual loss in economic value of an asset will likely not be uniform or constant throughout the asset's entire useful life. Instead, the decline in value will track with the

decline in actual use of the services provided by the asset, as well as the decline in market prices for those services. Indeed, this decline will begin to occur long before the asset is retired. Furthermore, variations in this decline from year-to-year are not relevant, because the overall objective of economic depreciation is to complete the depreciation of the asset in a systematic manner (*e.g.*, without a last-minute catch-up) by the end of its economic life (*i.e.*, by the time it no longer has any economic value). The rate of depreciation throughout the entire useful life of the asset does not need to be, and should not be, erratic just to reflect annual variations in the asset's decline in economic value.<sup>13</sup>

In addition, retirements are not able to track with the gradual loss in value for the major network technologies. For example, consider switches. Retirements of entire switches do not occur smoothly throughout the overall life span of a switch technology (such as electromechanical switching) because of the events which trigger the final demise of that technology. Even though some retirements of entire switches or parts of switches do occur throughout the technology's life span (due to capacity exhaust or feature upgrades), most of the retirements tend to be concentrated in a relatively short period of time toward the end of the technology's life span. This happens primarily because of (i) the rapid ramping-up of customer

---

<sup>13</sup> This premise is supported by the American Institute of Certified Public Accountants (AICPA), which defines depreciation as "a system of accounting which aims to distribute the [cost of assets] over the estimated useful life of the [assets] in a systematic and rational manner. It is a process of allocation, not of valuation." Accounting Terminology Bulletin, No. 1, AICPA, August 1953, par. 56. "Accounting for Public Utilities" likewise offers support by stating, "[i]t is commonly assumed for accounting purposes that consumption [*i.e.*, the decline in economic value] occurs evenly over the asset's productive life, *i.e.*, on a straight-line basis." Hahne and Aliff, *op. cit.*, page 6-7 (bottom) (emphasis added).

demand for new services that the older switch technology cannot provide (*e.g.*, custom calling services); (ii) regulatory requirements that the older switch technology cannot handle (*e.g.*, equal access, local number portability); and (iii) the inevitable loss of vendor support for the older switch technology as the end of its life span draws near. This pattern of concentrated retirements toward the end of the technology's life span has already been observed for both electromechanical switching and analog electronic switching.

With respect to digital switching, the SBC LECs' actual experience with the "interim" retirements of individual switch components (*i.e.*, interim to the future final retirements of the entire switches) does track somewhat better (but not perfectly) with the actual loss in their economic value because these interim retirements are not delayed until the final retirements of the entire switches. However, two important points must be made. First, when projection lives for digital switching are based on forward-looking, SWBT-specific interim retirement rates (*i.e.*, not the historical, industry-wide interim retirement rate currently prescribed by the regulators), they are about six to seven years shorter than those currently prescribed by the regulators. Second, SWBT's interim retirements do not signal the eventual total replacement of the current digital switching technology by more advanced types of digital switches, such as the asynchronous transfer mode (ATM) switches. Therefore, even SWBT's forward-looking lives for digital switching are conservative.

In the case of copper cables, retirements do not track with the loss in value over time because of the physical nature of these assets. The decline in usefulness (and hence, value) over

time will be largely due to the migration of customers from this technology to higher-density, higher-bandwidth facilities or wireless facilities. With the introduction of greater competition under the 1996 Act, this process is demonstrably accelerating as customers move from incumbent LEC copper to competitive LEC fiber.

Because this migration occurs cable pair-by-cable pair, the economic value of copper cables declines gradually over time. However, because of the FCC's Part 32 accounting rules, the retirement of a particular cable cannot occur until the very last pair in that cable has been vacated. Therefore, most of the retirements in this asset category will tend to occur toward the end of the life span of this technology. Hence, regulatory life prescriptions based on historical retirements or near-term forecasts of retirements simply do not anticipate this concentration of retirements at the end of the technology's use and, therefore, end up being much longer than the economic lives of these assets.

**D. Lower Asset Prices Change Adoption Rate, Influences Decisions to Introduce New Technology, and Therefore Shortens In-place Asset Lives**

In forecasting the adoption rate of technology, Technology Futures, Inc. concludes that economics, such as material cost, is a major driver. See Transforming the Local Exchange Network. Analysis and Forecasts of Technology Change, Technology Futures, Inc., 2nd Ed., p. 60. It is beyond dispute that cheaper facility prices facilitate the deployment of assets or influence decisions to introduce new technology, both of which ultimately relegate in-place assets to an underutilized status. Under-utilization, as previously explained, affects the life of an

asset. The SBC LECs' first-hand experience with improvements in technology (with respect to the capabilities and cost of technology), the migration of customers from older technologies to newer technologies (with respect to customers' demands for more reliable and advanced services), the ultimate replacement of older technologies by newer technologies (such as electromechanical switching by electronic switching), and even the replacement of current technologies by more cost-effective and capable versions of the same technologies (such as the processors used in digital switches) confirm that these factors are relevant in analyzing future utilization of assets, and, therefore, impact the determination of the economic lives of these assets. Forecasts of future declines in economic value (*i.e.*, the usefulness and/or revenue-generating capability) for the major technologies are based on this type of analysis, as well as knowledgeable opinions about future trends in the telecommunications industry all of which supports the idea that lives are affected by price and the decision to introduce new technology.

In light of the above, any suggestion that depreciation rates should be decreased or useful lives extended for purposes of the cost proxy model should be rejected.

**E. The Straight-line Remaining Life - Equal Life Group (SLELG) Methodology Is More Appropriate for Developing Economic Depreciation for Economic Models**

The Commission has sought comments on the appropriate method. The FCC should clearly follow its own previous determinations on the appropriate depreciation methodologies as adopted in past proceedings.

In Docket No. 20188, the Commission directed all LECs to keep their book reserves in a manner to allow for the use of the Remaining Life Technique.<sup>14</sup> Later, the FCC adopted SLELG over SLVG.<sup>15</sup> Use of the ELG method recognizes the reality that all plant placed in service on the same date will not have the same amount of useful life. It more closely matches depreciation charges with the service rendered during the life of the property than does any alternative grouping method. ELG is a forward-looking depreciation method that prevents future under-depreciation and provides a more accurate match between loss of value and depreciation.

The SBC LECs believe that if SLELG is selected, the method should be applied to the exact accounts chosen by the commission for ELG use in regulated depreciation practices. The FCC has adopted ELG for approximately 80% of the thirty-three (33) asset accounts. The remaining 20% can be handled as currently managed today. Such an approach would provide consistency and ease in implementation.

## **VI. COSTS OF INSTALLING OUTSIDE PLANT**

The SBC LECs' position throughout the universal service proceedings is that actual costs should be used for determination of universal service support, but that a proxy model could be

---

<sup>14</sup> *Amendment of Part 31 (Uniform System of Accounts for Class A and Class B Telephone Companies) So as to Permit Depreciable Property to Be Placed in Groups Comprised of Units with Expected Equal Life for Depreciation under the Straight-line Method*, Docket No. 20188, 83 F.C.C.2d 267, ¶¶76-84 (1980).

<sup>15</sup> *Prescription of Revised Percentages of Depreciation Pursuant to Section 220(b) of the Communications Act of 1934, as amended*, 96 F.C.C.2d 257, ¶5 (1983).

used as long as it calculates a level of costs that is reasonably close to actuals.

The SBC LECs have performed extensive analyses of both the HAI 5.0 and BCPM 3.1 results and input values in Texas. Based on review of the results and input data, the SBC LECs strongly believe that the BCPM default inputs are significantly more representative of the costs of installing facilities than the HAI default input values. The results of an analysis comparing total C&WF investments produced by HAI and BCPM with actuals are provided below.

The SBC LECs believe the disparity between the HAI outputs and actuals is a result of lowered numerous input values that were intended to produce lower cost results, and not intended to reflect a working network -- even a hypothetical one. For example, the SBC LECs found in Texas that the HAI inputs for the following items are very low when compared to SWBT-Texas actuals and BCPM default values.

#### **EXPLANATION OF PROBLEMS WITH HATFIELD DEFAULT INPUTS**

<b>HAI Input</b>	<b>Problem With Default Input</b>
1. Buried Drop Sharing Fraction (% assigned to the carrier)	The HAI default input is 50%. Currently, SWBT does not share drop placement costs with other service providers, does not expect to in the future and, given the premise of a forward-looking cost model, would not expect other utilities to also simultaneously replace their outside plant with SWBT. This input should be set at 100%.

2. Conduit Investment Per Foot	The current default input is \$0.60 per foot. The BCPM 3.1 default is \$0.83 per foot. The HAI default should be modified to reflect the BCPM default amount that produces costs close to SWBT actuals.
3. SAI Indoor Investments 4. SAI Outdoor Investments	The in-place investments associated with facilities which connect feeder facilities with distribution facilities are substantially understated in comparison with SWBT actual broad-gauge estimates and BCPM default inputs.

HAI Input	Problem With Default Input
1. Aerial Sharing Fractions 2. Distribution Buried Sharing Fractions 3. Distribution Underground Sharing Fractions 4. Feeder Aerial Sharing Fractions 5. Feeder Underground Sharing Fractions 6. Feeder Buried Sharing Fractions	The HAI defaults erroneously assume that significant portions of facility placement costs are shared with other utilities or carriers. For example, for buried cable, the default input assumes that the LEC incurs only 1/3 of the placement cost and 2/3 are born by others. SWBT typically does not share the costs to place cable and, as noted with "Buried Drop Sharing," any input that deviates from actuals is unreasonable.